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(54) BUMP FOR SEMICONDUCTOR ELEMENT

(57)Abstract:

PURPOSE: To prevent cracks for the production of a reliable connection in a thermal contact bonding process by a method wherein a bump constituted of a conductive resin composite is not thinner than 5 μm and irregularities on its surface are not lower than 1 μm .

CONSTITUTION: A bump 1 for a semiconductor element on an aluminum pad is constituted of a conductive resin composite. The conductive resin composite may be a mixture of such a photosensitive resin as an epoxy, acrylate-based resin or imide resin equipped with an acrylate radical and one or more of conducting fine particles such as Ni fine particles, Ni fine particles plated with gold, fine particles of Au, Pd, and Rh. The diameter of a metal particle should be 0.2 μm to 2.0 μm on the average. Such a conductive resin composite will provide a coating on the entire surface of a silicon wafer 4 and viscosity and other conditions will be so set that the coating will be not less than 5 μm thick. As for the upper limit of the thickness, 30 μm is desired. As for the height of irregularities (a) on the bump 1, it should preferably be 1 μm or more. This design prevents cracks and results in a reliable connection in a thermal contact bonding process.



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